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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,807	04/28/2000	WILFRIED MODROW	3245-734PUS	9810

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EXAMINER

TRAN, LEN

ART UNIT

PAPER NUMBER

1725

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17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/509,807

Applicant(s)

MODROW ET AL.

Examiner

Len Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simsek "Dynamic Simulation of Dual-Line Continuous strip Processing Operations" in view of Chun et al (US 5,509,460).

Simsek discloses a method for determining and controlling the material flow of continuous cast slabs in a continuous casting installation by monitoring and optimizing the

temperature on the transport path of the continuous cast slabs between the continuous casting installation and a rolling mill (page 46, 2<sup>nd</sup> paragraph through page 47, 1<sup>st</sup> paragraph and 5<sup>th</sup> paragraph) comprising the method of determining an amount of heat and a temperature profile of the continuous slab by calculating the convective mixing of the amount of heat contained in the continuous cast slab and the time dependent heat loss from the inhomogenously cooling of the continuous cast slab, wherein the step of calculating comprises using a mathematical physical model, finite element numerical techniques (page 47, 5<sup>th</sup> paragraph).

Simsek fails to disclose the steps of: a) determining the liquid phase and physical parameters, such as density of the slab at the mold exit, controlling the material flow in the continuous casting installation via a slab monitoring system and using the amount of heat and the temperature profile determined in step b. as an input to the slab-monitoring system. b) Step c. comprises using a surface temperature of the continuous cast strip determined in step a. as an input to the slab monitoring system. c) Step c. further comprises automatically controlling the material flow via the slab monitoring system based on the amount of heat and the temperature profile determined in step b. and the surface temperature of the continuous cast slab. d) measuring the surface temperature of the continuous cast slab *over time*.

However, Chun et al discloses a method of continuous casting and detecting a temperature of the liquid phase of the continuous slab and physical parameters, density, of the slab (col 2, lines 1-24 and col 5, lines 1-10), and controlling the material flow in the continuous casting installation via a slab-monitoring system (400) of the continuous casting installation (fig. 1). Chun et al shows, wherein in step a. comprises determining a surface temperature of the slab,

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and step c. comprises using a surface temperature of the continuous cast slab determined in step a. as an input to the slab monitoring system, and then step c. further comprises automatically controlling the material flow via the slab monitoring system (figure 1, col 5, lines 21-50).

Chun et al teaches the following differences for the purpose of detecting spatial profile of the liquid metal/solid metal interface since it is important for optimizing magnetic stirring and soft reduction techniques employed to minimize phase segregation in high alloy steel casting and in addition having slab monitoring system in order to maximize productivity and minimize initial and operating costs.

Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to provide Chun et al's method of determining the liquid and physical parameters of the slab and incorporating Chun et al's slab monitoring system as an automatic controller in Simsek in order to maximize productivity and minimize initial and operating costs.

Furthermore, Chun et al implicitly disclose that the *surface temperature is measured over time, since the slab is being continuously casted* and wherein the slab should be measured over time in order to control the formation of the strand. Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to measure surface temperature over time, since the metal is continuously casted.

***Response to Arguments***

3. Applicant's arguments with respect to claims 5 and 8 have been considered but are moot in view of the new ground(s) of rejection.

1. in page 8, last paragraph, applicant argues that Chun et al do not measure the surface temperature over time and that Chun et al only measure one time at the casting exit. Examiner respectfully disagrees since Chun et al implicitly disclose that the *surface temperature is measured over time, since the slab is being continuously casted* and wherein the slab should be measured over time in order to control the formation of the strand. Therefore, it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to measure surface temperature over time, since the metal is continuously casted and that allows the operator to control the formation of the strand.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Inquiry***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Len Tran whose telephone number is (703)605-1175. The examiner can normally be reached on M-F, 8:30 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 703-308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3602 for regular communications and (703)305-3602 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Len Tran  
Examiner  
Art Unit 1725

LT  
October 18, 2002

  
M. ALEXANDRA ELVE  
PRIMARY EXAMINER